

CLAIMS

What is claimed is:

1. A method for communicating a Physical Layer (PHY) mean square error (MSE) to an upper layer device driver, comprising the steps of:
 - (a) receiving a frame by the PHY;
 - (b) computing a MSE for the frame by the PHY;
 - (c) sending the MSE and the frame to a Media Access Control (MAC);
 - (d) inserting the MSE into a frame status frame (FSF) associated with the frame by the MAC; and
 - (e) sending the frame and the FSF to the upper layer driver software.
2. The method of claim 1, further comprising:
 - (f) extracting the MSE from the FSF by the upper layer driver software; and
 - (g) computing an average mean square error (AMSE) based on the MSE by the upper layer software.
3. The method of claim 2, wherein the computing step (g) comprises:
 - (g1) computing the AMSE for a history window of frames by the upper layer driver software.
4. The method of claim 2, further comprising:

- (h) comparing the AMSE with a range of AMSE values for a payload encoding (PE);
- (i) transmitting at the PE if the AMSE is within the range; and
- (j) negotiating a change in the PE if the AMSE is not within the range.

5. A method for communicating a PHY MSE to an upper layer device driver, comprising the steps of:

- (a) receiving a frame by the PHY;
- (b) computing a MSE for the frame by the PHY;
- (c) sending the MSE and the frame to a MAC;
- (d) inserting the MSE into a FSF associated with the frame by the MAC;
- (e) sending the frame and the FSF to the upper layer driver software.
- (f) extracting the MSE from the FSF by the upper layer driver software; and
- (g) computing an AMSE based on the MSE by the upper layer software.

6. The method of claim 5, wherein the computing step (g) comprises:

(g1) computing the AMSE for a history window of frames by the upper driver software.

7. The method of claim 5, further comprising:

- (h) comparing the AMSE with a range of AMSE
- (i) transmitting at the PE if the AMSE is within

4 (j) negotiating a change in the PE if the AMSE is not within the range.

1 8. A method for communicating a PHY MSE to an upper layer device driver,
2 comprising the steps of:

3 (a) receiving a frame by the PHY;
4 (b) computing a MSE for the frame by the PHY;
5 (c) sending the MSE and the frame to a MAC;
6 (d) inserting the MSE into a FSF associated with the frame by the MAC;
7 (e) sending the frame and the FSF to the upper layer driver software.
8 (f) extracting the MSE from the FSF by the upper layer driver software;
9 (g) computing an AMSE for a history window of frame based by the upper layer
0 software;

11 (h) comparing the AMSE with a range of AMSE values for a PE;
12 (i) transmitting at the PE if the AMSE is within the range; and
13 (j) negotiating a change in the PE if the AMSE is not within the range.

1 9. A computer readable medium with program instructions for communicating a
2 PHY MSE to an upper layer device driver, comprising the steps of:

3 (a) receiving a frame by the PHY;
4 (b) computing a MSE for the frame by the PHY;
5 (c) sending the MSE and the frame to a MAC;
6 (d) inserting the MSE into a FSF associated with the frame by the MAC; and

(e) sending the frame and the FSF to the upper layer driver software.